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REMAN CONNECTION

On the Road Again

Hands-On Training is Making a Post-Covid Comeback In the Race to Catch Up With the Growing Need for Service Technicians

ALSO INSIDE THIS ISSUE:

APRA BigR Symposium

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THE SODA BLASTING EXPERTS

Kripli's Corner

BigR SYMPOSIUM IS BACK *LIVE*

Joe Kripli

I am very excited to have the *BigR Symposium* back live in Las Vegas on October 31st, 2022 in Las Vegas. I have talked to a number of people who have said they will be back in Las Vegas this year for the SEMA and AAPEX Shows after having skipped them the last couple of years. I am looking forward to seeing people I haven't seen in a few years. We have a great agenda with our keynote address being presented by PT Muldoon from CRP Industries. Pat has been in the remanufacturing industry for a long time, I first met Pat when he was an engineer at Mopar. CRP Industries is a previous "Remanufacturer of the Year" award winner and more recently voted *Top Work Places in 2022* by NJ.com (New Jersey).

Labor Shortages Causing Havoc!

If the supply chain shortages were not enough to contend with recently, we are seeing a number of service providers and of course your own businesses struggling to find good employee's (let alone trained workers) who want to work. I recently had to have a vehicle repaired, the choices where I live are either the dealership or a decent repair garage. I took the vehicle to the repair garage and was told they couldn't even look at it for 10 days, due to lack of mechanics. That's crazy!

Have you traveled lately? Let me tell you it's a nightmare. First, so many flights were cut during the pandemic that now your options are limited. If anything gets delayed or canceled, then the chain reaction effect can cause being stuck in a city for a couple extra days. I spoke to a colleague flying from Rochester, NY to Florida with a layover in Baltimore. Her Baltimore flight got canceled, they couldn't get her on another plane to Florida for two days, so she sat in a hotel waiting, what a disaster.

One more airplane story, we recently attended the INA/PAACE Automechanika Show in Mexico City. There was a gentleman from Automechanika flying from Frankfurt Germany to Mexico City, his flight was delayed for two hours because of no luggage handlers being available. They finally took off on the 9 hour flight and upon landing, the pilot announced to the passengers that all checked luggage had been left behind, due to labor shortages. So, 300 people had no luggage!

So, my lesson learned is plan early for the *BigR Symposium*, SEMA, and AAPEX shows because the options may be limited.

Have a great summer, it's going fast.

I always welcome response or rebuttal to my comments at **kripli@apra.org** and sometimes my editorials do not reflect the position of the APRA.

Respectfully,
Joe Kripli
APRA President

Contents

Advertisers

INDUSTRY CALENDAR

Automechanika Frankfurt
September 13-17
Messe Frankfurt, Germany

MERA Sustainability Manufacturing Conference
September 28-29
Detroit, MI

RIC-RIT World Remanufacturing Conference
October 11-13
Rochester, NY

BigR Symposium
October 31
Las Vegas, NV

AAPEX/SEMA Shows
Start November 1
Las Vegas, NV

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DON'T LET RECORD SALES BLIND YOU

"It's Not What You Make, It's What You Keep"

By Paul D'Adamo, RAS "Core Hunter"

As I travel the trade show circuit throughout the US and Canada, recyclers say that parts sales are off the charts! While the news is very exciting, I'm also hearing that labor availability and labor costs have skyrocketed, while scrap prices have turned in the other direction. Compound the labor situation with record inflation, and you will see that my topic is timely and extremely relevant. Bottom line: Is your business profitable? How do you know?

Most auto recycling businesses are not run by CPAs or Financial Analysts. We are entrepreneurs who have always managed to be profitable by squeezing the most out of what we had. Our business has become more complicated over the last couple of decades. Basic business tools like a P&L (Profit & Loss Statement) are critical to knowing what is going on in your business. ***The idea of using your checkbook balance as a measure of your profit isn't accurate and can lead to wild swings in managing your business.***

In the 90s, when I attended ARA and URG Conferences, Jim Counts drilled a couple of sayings into my head. "Are you running your business or is your business running you" and "It's not what you make, it's what you keep." With that in mind, I made it a priority to attend every seminar related to financial matters. Over time, I transitioned my business from "checkbook balance" mode to a "P&L" model.

Is Your Business Profitable?

There is a reason they call the Bottom Line. . .the Bottom Line. It's called Net Profit: Income minus Expenses. However, the organization of the P&L is critical for us non-accountant types to understand how we run our business. Having your key income and expense line items appropriately organized allows you to see your revenue streams while also managing your expenses. Do you know what your current labor costs are? If you dread looking at your monthly P&L, this is a WAKE-UP CALL to make a change!

Change will not be easy. This is hard work as your current bookkeeping has been in place for years. Need some guidance? Email me for a "model" P&L statement. It's not perfect, but it will give you a comparison to your current statement. My model statement is categorized and prioritized to the needs of your business.

Expect Resistance!

During my two years of consulting (post-Pick-n-Pull, pre-RAS), I found that most recyclers' P&Ls were not used, primarily because they were not organized. Accounts were in the wrong place, income and expenses were miscategorized, and while their accountant could pull enough information from them for tax purposes, the document was useless.

What's In It For Me?

While I want you to await next month's P&L anxiously, I have a selfish interest in this endeavor. Your P&L should have a breakdown of your "non-parts" revenue stream, including scrap, cores, converters, commodities, and recalls. Once you see the percentage of income for non-parts sales, you can better maximize opportunities (wink, wink — keep me in mind). Most recyclers will be surprised how much revenue comes from non-parts revenue…but you will never know unless your P&L works correctly. ■

Questions on Cores, Recalls, or Converters? Contact Paul at **pdadamo@coresupply.com** *or* **401-458-9080**.

LINQ Hotel | Las Vegas, NV

Monday, October 31st 2022

9AM-3PM

AGENDA

Automotive Parts Remanufacturers Association
PLACE: LINQ Hotel, Las Vegas, NV
Monday, October 31, 2022 9:00am – 3:00pm

9:00am – 9:15am	**WELCOME:** Joe Kripli, APRA President
9:15am – 10:00am	**KEYNOTE ADDRESS:** P.T. Muldoon, CRP Industries
10:00am – 10:30am	**UNDERSTANDING TARIFFS:** Charles Benoit, CPA Trade Counsel
10:30am – 10:45am	Break and Tabletop Networking
10:45am – 11:15am	**FREIGHT SOLUTIONS FOR YOUR SUPPLY CHAIN ISSUES:** Steven Hass, DOS
11:15am – 11:45am	**CLEANING SOLUTIONS:** Jack Daul, Allen Woods & Associates
11:45am – 12:45pm	Lunch (Provided with Registration) Tabletop Networking
12:45pm – 1:45pm	**EV REMANUFACTURING OPPORTUNITIES:** Craig Van Batenburg, ACDC
1:45pm – 2:15pm	**WHAT IS CARBON NEUTRAL?** Hitachi R&D
2:15pm – 2:30pm	Break and Tabletop Networking
2:30pm – 3:00pm	**TURBOS: WHY IS WARRANTY RARELY ACCEPTED?** Greg Arsenault, AMBAC
3:00pm	**CLOSING REMARKS:** Joe Kripli

NEW YORK STATE IS THE FIRST!

New York State Passes the *Right to Repair* Law

By Iskra Petrova

THE ELECTRONICS *RIGHT TO REPAIR* LAW has now passed the State Senate of New York by a vote of 59 to 4. Then, it passed the Assembly by a significant 145 to 1 vote. Now, the bill carrying the name of the *Digital Fair Repair Act* is going to Gov. Kathy Hochul for its final approval.

This, as you might imagine, has the potential to significantly change the power balance between the big tech companies and consumers.

The *Digital Fair Repair Act* covers all consumer electronics. The legislation basically requires companies to sell repair parts and tools and to provide repair documentation to users under "fair and reasonable terms."

You may have heard that Apple, Microsoft, and Samsung have begun a somewhat semi-voluntary process of selling certain repair parts and giving repair guides to customers. But this was done due to a voluntary policy that doesn't have the force of law, which is something the *Digital Fair Repair Act* would have once it becomes law.

This New York legislation follows the example of a similar law applied to cars, that passed in Massachusetts in 2012. Back then, when the legislation went into effect, car makers signed a "memorandum of understanding", which led to the legislation becoming a national policy. It became so because car makers didn't want to deal with slightly different versions of the same law in different states. That being said, there is the possibility that this could happen with the *Digital Fair Repair Act* as well.

Apple's Self-Service repair program is the first to actually reach the market, and it has been a bit controversial. Well, the thing is that Cupertino send a reported 79 pounds of tools for an iPhone repair, and put a $1,200 credit card hold for the tools the user was renting.

Here's hoping that those "fair and reasonable terms" the *Digital Fair Repair Act* is talking about could make this process a bit more seamless for someone who wants to replace their iPhone's battery. Or any phone battery, for that matter. The legislation does not focus on what 'fair and reasonable terms' means, and this remains to be seen. ■

ON THE ROAD AGAIN

Hands-On Training is Making a Post-Covid Comeback In the Race to Catch Up With the Growing Need for Service Technicians

By Niels Christiansen

Gil Anchondo knows how to put on a show and engage a crowd. For decades, he has impressed, entertained and educated a growing audience of automotive enthusiasts in shops, online, at trade shows and on social media with his skills as a cutting edge automotive paint artist and builder.

Today, he is on a new mission. He is in a growing group of pioneers in one of the greatest workforce development challenges for the automotive service, rebuilding and remanufacturing industries: The building of the corps of technicians for the present and future onslaught of hybrid cars and EVs.

These days, you may find Anchondo towing around the first of its kind electric training vehicle mock-up – a cut-up 2014 Nissan Leaf. He built it together with his co-pioneer Tom Rayk at AVI OnDemand, the Automotive Video Innovations instruction company Anchondo now represents as an independent contractor.

"We pretty much gutted the whole car and put it on a cart. Everybody that sees it says, 'Oh, this is amazing'," he explained. "We made it run on the cart – forward, reverse, and you can hear the generator braking. You can do tests on it. And we can bring it right into your classroom or shop for your technicians to put their wrenches on it."

The Leaf is the newest addition to AVI's wide-ranging training toolbox of instruction videos, written materials, cut-up parts and hybrid cars, which are distributed and used for instruction classes online and, increasingly, on location.

"We use it to train technicians in classrooms at technical schools, at large companies, cities and post offices with growing fleets of EVs, and in shops anywhere," Anchondo said. "We also bring, sell and deliver cut-up Toyota Prius training vehicles and any hybrid or EV part to fit specific classes."

The need and demand for training hybrid and EV maintenance technicians is acute.

Explained Anchondo: "When hybrids were first introduced, a lot of manufacturers scared technicians because they didn't want them to stick their hands into

batteries that could kill them. So that was part of the reason why technicians shied away from them."

"More and more, organizations and mechanics realize that they can no longer afford to fall behind. They are seeing growing numbers of hybrids and EVs, the industry is changing, and we've got to be ready for it. Each time a service or repair shop turns away an EV because of a lack of qualified technicians, they turn away money. Owners, managers and individual mechanics realize that they must overcome their reluctance and join the future to stay competitive in the industry and relevant in the job market."

The good news, according to Anchondo is that the initial fears associated with the battery technology were greatly exaggerated.

"Once they take our class they realize it's really not that dangerous when you know how it all works. You have to have proper safety equipment, you must know the specs for the vehicle, and you must be careful that when you touch those wires barehanded it's not going to be the last time you check it. Today, there's a lot of built-in safety devices, including switches that disconnect the entire system as you remove a cover, but you always must make sure that it is fully shut off by checking with the correct multi-meter approved to 1,000 volts."

"Once they take our class they realize it's really not that dangerous when you know how it all works."

Putting on the Show

For Anchondo, the path to automotive showmanship and some measure of celebrity started early. He was 13 years old when he first worked part-time in the auto body and radio shop in Oxnard, California, where his dad worked. At 15, before he had a driver's license, he bought his first truck to fix up and put a radio in it. He wanted to paint and soon showed extraordinary promise as a custom painter.

At 18, he was busy in his painting career. He learned tricks of the trade from people doing hot-rods. While he gained prominence locally in the Los Angeles area, it led to custom car builds for shops in Canada and across the US, and auto show and TV appearances. Every project became a demonstration project.

"Companies would ask me to try out their new products. People wanted to know how I got the custom colors so deep and beautiful. So I realized that I wanted to go a step further as a teacher," Anchondo explained.

He went to the Automechanika people in Mexico City and proposed to set up a demonstration session at their show. When nothing came of this, he went to Chihuahua, Mexico, and cold-called a radio station.

"I knew no one at the radio station or in the local industry, but I told them I had a little dream, and I would like to make it happen," he said. "And they said, 'well, ok, what do you want to do?'"

"I told them I wanted to build a car in five days, have a one-day car show for the unveiling and donate all the money from people coming in to a local charity."

"When I did an interview on a handful of radio stations, their phones rang off the hook. People wanted to help me. Two months later, we had a date for the show, a location, and a charity to donate to. I had a phone meeting with everyone involved."

"We used a van from the radio station for the build. I had five days to do it. Forty volunteers helped. It was stripped in four hours. We worked around the clock for five days. The local media were all over it."

"On the day of the show and the unveiling, 15,000 people showed up. It was the most satisfying moment of my life."

"I had conquered my dream. I didn't know what to do next. But when I put it on my social media I got a call - from the director of Automechanika in Atlanta."

"'I saw what you did in Chihuahua,' she said. I told her I wanted to teach."

AVI OnDemand offered just the teaching gig, Anchondo wanted. After two years of mostly remote instruction and growing computer fatigue, the company tasked Tom Rayk with rebuilding and expanding upon the company's hands-on training activities, and the now 51 year-old Anchondo was his first recruit.

"As people realize we are back on the road, the demand for hands-on training is rising, and we now have half a dozen instructors traveling by air and in vans with trailers, going from location to location," he said, "After the covid years of remote learning, people are back to wanting to feel it, touch it, smell it and put their own wrenches on it." ■

Written by Niels Christiansen in conjunction with Gil Anchondo.

REBUILDERS AUTOMOTIVE SUPPLY (RAS) CELEBRATES 50TH ANNIVERSARY IN 2022

Our Founder Ted Eckstein knew he had something special in 1972. Ted was always an automotive enthusiast, and in the early 60's, he started a small scrap company.

One day, a friend of Ted's told him that he could use some starters and generators for rebuilding purposes. That was the beginning of the transition from buying just for the scrap metals to buying for remanufacturing. Ted attended trade shows and learned about the industry. Rebuilders throughout the US were transitioning from small rebuilding/repair shops to production remanufacturing facilities. In addition, Remanufacturing was developing new product lines such as Import Rack and Pinion, ECMS, Import Calipers, etc. Talk about timing; just as RAS was becoming a truly defined core supplier, the industry was growing in leaps and bounds.

With the history of automotive recycling and remanufacturing as a backdrop, we think it best to talk about the grit, perseverance, and dogged determination to continually strive for excellence, innovation, and, most importantly, customer satisfaction. At RAS, we believe that our customers and employees are centered equally as the foundation of a business with three divisions: Cores, Catalytic Converters, and Recalls. Without our dedicated team of RAS employees, we would not be able to give our customers the attention they need, deserve, and expect.

The Automotive Core business relies on recovering used parts from a vast network of auto recycling and dismantling facilities in the US & Canada. Once fully cataloged, these auto parts are ready for sale to remanufacturers and refiners worldwide. RAS was the pioneer of computerized search and tracking for automotive cores. In 2022, most incoming orders will be pre-invoiced and shipped to our primary facility in Rhode Island. Our secondary site in Tampa, Florida, is a buy location for our southern customers and a clearinghouse for all air conditioning cores.

Our Catalytic Converter division has grown in volume, capacity, technology and talent. With additional investments in capital equipment, RAS stands amongst the largest converter collectors in North America providing an array of service levels for our loyal customers. Our Recall Division has been instrumental in the GM Ignition and Takata Airbag Recalls. Our commitment to the driving

public in removing these lethal products from the marketplace stands as a tribute to the standards set by our Founder Ted Eckstein.

With a combined 300,000 sq ft of working area, RAS processes over 2 million cores, 2+ million pounds of catalyst, and over 100,000 Recalled parts a year. RAS is no longer simply a core company, but a logistics company focused on cores, converters, and recalls. Our customers rely on our quick pickup, processing, and payment to be profitable in their business. Our logistics capacity has become a top strategic asset. It's hard to imagine that back in 1972, most of our orders were transported to a small facility in Cranston, RI, in the back of a pickup truck.

With our business systems sensitive to the marketplace's volatility, we are laser-focused on providing top-of-market pricing for our supplying customers and best of volume pricing for our purchasing remanufacturers. The ownership and Executive Team of RAS have skillfully led the company through growth spurts, challenging competitive markets, and difficult national crises. Above all else, the company has never pulled back or turned away from a significant investment in our human and physical resources. Visitors to RAS are often stunned to see the cleanliness and organization of our physical plant. We put our customers first by providing an outstanding environment for our talented staff.

Our Executive Team, led by President Bob Grady, Vice President Steve King, and CEO Jesse Whiteside, is at the forefront of the ongoing story of RAS. Our dedicated team of RAS employees, many of whom you will never see, stand ready to ensure a high degree of customer satisfaction with every order. Join us in celebrating 50 Years of Service. We appreciate and celebrate our friends and business associates in the automotive industry. ■

A NEEDLE IN A HAYSTACK:

Finding and Diagnosing Intermittent Problems

By Paul Loch

A customer brought in a 2013 Ram 3500 CEL, a transmission temperature display on the instrument cluster reading incorrectly, and harsh shifting that would go into limp mode. This customer informed us that he just took delivery of the truck from a Dodge dealership. The dealership was aware of the issues and diagnosed and replaced the solenoid pack with a genuine Mopar part to try to remedy these problems. The receipt for this repair was in the truck so I was able to verify that the work was performed and verify the part number used for the repair.

When I began my evaluation, I started with a complete scan of all the modules. The codes that came back were: P0218 (transmission high temp operation activated), P0714 (transmission temp sensor 1 intermittent), and P0876 (UD pressure switch rationality).

Figure 1

Data Display

Scanner - Engine - Codes - 11/19/2021 3:14:23 PM
Codes - No Codes Present

Scanner - Engine - Codes - 11/19/2021 7:52:32 AM
P0714 - Transmission Temperature Sensor 1 Intermittent
P0218 - Transmission High Temperature Operation Activated - Active

Scanner - Engine - Codes - 11/17/2021 9:27:21 AM
P0714 - Transmission Temperature Sensor 1 Intermittent - Pending
P0876 - Underdrive Pressure Switch Rationality

Scanner - Transmission - Codes - 11/17/2021 9:26:43 AM
P0714 - Transmission Temperature Sensor 1 Intermittent - Pending
P0876 - Underdrive Pressure Switch Rationality

After clearing all the codes, I took the truck for a road test to see if I could duplicate the customer's concern and see if any of the codes would reset. I drove the truck for 10 miles with no issues and none of the codes reset. I then decided to bring it back to the shop to do a visual inspection.

I started by testing the batteries and alternator and they tested within spec. I then checked to make sure the case connector was completely seated and secure, and found that it was. I also checked for applicable TSBs and did not find any that pertained to this issue. I then decided to take the vehicle for another road test, but on an extended drive to try and get it to duplicate. Unfortunately, this also yielded no results.

Certain that all the data on the scan tool was correct, I knew I was dealing with an intermittent issue. We contacted the customer and informed him that we could not get the issue to repeat itself and asked him if he had any other information that could possibly aid us in getting it to act up. He said it happens after it sits outside overnight when it's cold and occurs after he starts it up first thing in the morning. We kept the truck outside overnight to attempt replication.

The next morning, I was still not able to get the symptoms to show themselves, so the customer decided to pick up his truck and take it home. He then called the next morning and said it had happened again, so he brought it back to us for further diagnosis.

The next morning, I went to see if the truck would act up and much to my surprise, it failed immediately after startup. I watched the transmission temperature display on the dash jump to 358°F right at startup, and within five seconds it dropped down to the correct transmission temperature reading. Following these events, operation returned to normal. Throughout additional road testing, the truck operated as it should.

Figure 2

I came back to the shop and shut the vehicle off to let it cool. A few hours later once the truck was cold, I tried it again and was able to repeat the temperature display error and, as before, returned to normal operation. **Figure 2** shows scan data upon startup (this was after the code has set so the transmission temp PID was defaulting).

At this point I needed to perform some component testing, so I reviewed circuit diagrams so that I could do some testing of the circuits and related components. Everything I checked tested correctly and normally, so at this point I was pretty convinced it was not a faulty solenoid pack. I also noticed that the temperature reading was correct when cycling the key on and off, and only after the engine was started would the temperature reading be excessively high again. I decided to take a closer look at wiring harnesses since it seemed likely to be related to the engine/transmission motion during cranking.

I inspected the transmission harness around the transmission and didn't see any signs of rubbing or chafing. I then followed it all the way up the bellhousing and into the engine bay and it was there that I found an area of concern. The harness was attached to a bracket at one of the bellhousing bolts and there was a square boss coming off the engine block (as seen in **Figure 3**).

Figure 3

I pulled the up the data on the scan tool so I could monitor the PIDs while moving the harness against the suspect spot, and I was able to witness the voltage behaving erratically (as seen in **Figure 4**).

Figure 4

I removed the harness to closely inspect it and found two wires with very small holes rubbed into them. At this point I knew that this was the cause of the issue. I was able to repair the damaged wires that had rubbed through, and to reposition the bracket so the harness would no longer rub anywhere. As of this writing, the truck is still working, and the customer is very happy. For reference, **Figure 5** shows the scan tool data under normal operation.

Figure 5

As evident in this anecdote, it took several attempts to repeat the customer's concerns. We all encounter intermittent concerns and often spend far more time than we would like to try to pinpoint the problem. In the end, we do what we do to win repeat business from our customers. Wiring issues like this are often the root cause of intermittent vehicle issues. Sometimes it comes down to finding the needle in the haystack. If it were easy, anyone could do it, right? ■

Paul Loch is a diagnostician with Certified Transmission. He is an ASE Master Certified Technician who has been with the company since 2010.

INTERVIEW WITH AN OEC GROUP EXPERT

NAVIGATING THE GLOBAL AUTOMOTIVE SUPPLY CHAIN

Charles Klein, *Station Manager for OEC's Group Detroit Office*

Charles Klein, the Station Manager for OEC Group's Detroit office, shares his expertise regarding the state of automotive logistics, and offers advice on how shippers can give themselves the best chance of getting products imported during difficult market conditions.

Q. Can you give us a quick snapshot from a thousand feet up of the automotive logistics landscape?

A. Supply chains in both the new build and aftermarket automotive sectors are still experiencing a lot of the same difficulties that emerged just after the initial impact of COVID-19. For example, the chip shortage persists, and, in some cases, completely manufactured cars are on hold waiting for them. As a result, many people turned to used cars and demand for aftermarket parts increased. Simultaneously, container capacity was swept up in major backlogs at U.S. ports. Now, ports like L.A.-Long Beach and New York-New Jersey remain jammed. Also, we've been seeing equipment shortages and rail delays on shipments coming from the West Coast and the Pacific Northwest to automotive hubs in the Midwest.

Q. Have most automakers switched from just-in-time to just-in-case?

A. While there have been media reports of companies like Toyota and Nissan, early adopters of the just-in-time system, transitioning to just-in-case to keep assembly lines moving, the reality is, a lot of manufacturers are doing their best to hold on to the efficiency of just-in-time, especially with the difficulty of finding warehouse space. This makes supply chain planning even more critical because delayed or otherwise poorly planned shipments can temporarily halt an entire assembly line. We recently saw this when Volkswagen and BMW stopped European production when Ukraine could no longer supply automotive wire harnesses.

Q. Do supply chain roadblocks have a more severe impact with aftermarket parts or fully manufactured new builds?

A. Supply chain disruptions impact new builds more than aftermarket parts because with new builds, if just one part is held up, then the entire operation can be paused.

With aftermarket parts, retailers and mechanics rely on building inventories. As a result, brick-and-mortar retailers like Advanced Auto Parts do not necessarily lose

substantial business because of shipping delays. However, if certain parts are delayed during the importing process, like brakes, then it could impact whether or not people around the country can maintain and fix their vehicles.

Q. Any ideas on short-term or long-term developments in either sector?

A. For fully manufactured new builds, supply chain issues and the global chip shortage are likely to continue causing problems at least in the short-term. Aftermarket parts have a better outlook as they have stocked traditional inventory for years. However, many critical parts, such as brakes and wipers, stay in short supply. Current market conditions make it difficult to offer any concrete long-term predictions for either sector.

Q. What is your advice for shippers in the automotive sector trying to operate in this historically tight market?

A. Whether you're a shipper building your inventory of aftermarket parts or a shipper trying to keep assembly lines functioning, diversification is key. We've been proactive in helping our clients develop strategies that do not rely on just one trade lane, route, or port pairing. To simplify our strategy, we're spreading shipments amongst several destination ports in different regions of the US and sometimes Canada, specifically looking for routes with the most reliable transit times or those that are consistent and predictable. As a result, our clients can now plan more effectively, keep supply chains flowing, and minimize any effects to their bottom line. ■

For more information or to know more about this topic please feel free to contact **Charles Klein** *at* **630-336-9484** *or* **ck.dtw@oecgroup.com**.

APPI ENERGY

THE DRIVING FORCE(S) BEHIND NATURAL GAS PRICES

Natural gas prices continue to experience volatility in 2022, with summer shaping up to be no exception to that trend. The U.S. Energy Information Administration (EIA) expects the Henry Hub price to average $8.69/MMBtu in Q3 of 2022, which is up from an average of $8.13/MMBtu in May. Natural gas prices are rising in large part due to three factors: natural gas inventories, LNG exports, and high demand. Let us take a closer look at the contributing factors:

NATURAL GAS INVENTORIES

While more recent events have put constraints on the amount of natural gas available to be stored for next winter, the number of actual gas drilling rigs began taking a hit during the pandemic, which forced the U.S. to tap into "drilled but uncompleted" wells, in lieu of drilling new wells. Supply chain issues, available crews, and investor reluctance toward fossil fuels caused rig count to hit a 33-year low in August 2020.

KEY TAKEAWAY: *Natural gas storage levels are 15% lower than this time last year, and 13% below the 5-year average. The EIA also expects injection season to end with inventories roughly 9% below the 5-year average.*

LNG EXPORTS

The U.S. is currently the largest supplier of liquified natural gas (LNG) to Europe. According to the EIA, **in the first four months of 2022, LNG imports from the United States to the EU and the United Kingdom have more than tripled, compared with 2021**. While demand has increased, investor hesitancy continues to put a delay on new LNG facilities, as the transition to clean energy leaves many wondering how long a sustained increase in demand for natural gas will last.

KEY TAKEAWAY: *LNG exports are key factor in what is keeping domestic supplies low. Simply stated supply has not yet caught up to overseas demand.*

INCREASED DEMAND

While exports to Europe (and Mexico) are contributing to a reduced supply, weather is also driving demand up, with extreme heat hitting at a time when the industry typically adds natural gas inventory for the cold weather months. A transition from a cold spring straight to hot (and in some parts of the country, record-breaking) weather did no favors for natural gas inventories. As a result, as fossil fuel demand has increased, it has proven difficult to keep pace with demand.

KEY TAKEAWAY: *High temperatures this summer could mean high demand for natural gas from the electric power sector given limited opportunities for natural gas-to-coal switching. Very hot summers (and very cold winters) historically push energy prices higher.*

For more market updates, or to take advantage of a complimentary assessment with APPI Energy, contact our team today at **800.520.6685** or **info@appienergy.com**.

2022 INA/PAACE AUTOMECHANIKA SHOW

The 2022 INA/PAACE Automechanika Show was held July 13-15, 2022 in Mexico City. This was the first show held since the pandemic and people were eager to get together and have F2F business discussions. The show featured over 170 Exhibitors from 47 countries and over 8000 people registered for the event. The APRA Booth was supported by APRA Chairperson, Greg Arsenault of AMBAC, and APRA Past Chairman, Tom Jackson of Rebuilders Automotive Supply, as well as Joe Kripli, President of APRA. This event shows the global outreach of APRA as your remanufacturing association. Many new members were signed up on the spot at the APRA booth during the event. ■

AUTO ELECTRIC CORNER

Reman Reputation

By: Mohammad Samii

It amazes me that the reputation of Reman products has not improved much over the years, particularly rotating electrical units in certain technicians' and mechanics' circles. We repeatedly hear the same, worn-out opinions that "Aftermarket products are not good," and "When in doubt, use an OE or OEM product." The fact that a large number of OE or OEM starters and alternators are made and supplied by independent companies, is something that most do not know or would not admit.

The following post on the I-ATN (International Automotive Technicians network) site read as follows: "Vehicle came in for noise in alternator pulley, we replaced the alternator and all seemed well. Car came back with complaint of alternator charging light and brake light on when rpm's hit 3000, after it drops below 3000 both lights go out. We replaced the alternator and belt and check the output which is around 100 amps when loaded and 14.3 volts. Checked all wiring and grounds seem OK, it only does it when we rev over 3000. Any help would be appreciated."

That is a legitimate question and de-serves a proper answer. But much to my dismay, 11 out of 13 answers were of the opinion that aftermarket alternators are not good and have issues. The recommendations were to replace the unit with an OE Nissan alternator. I will quote only one such answer verbatim, which was typical of the rest:"Most of the AM alternators are an issue with the PCM controlled systems in use today. The regulators are usually the culprit..."

Why our industry has gained such a reputation is open for question. Why the recent improvements in manufacturing electronic parts and detailed operational test of units (with test results printed and supplied in the box) has failed to change certain opinions, remains a mystery.

Isuzu: Transmission and Voltage Regulator

Here is a revisit to an old article. I thought the chance of this problem ever happening again was highly un-likely, but low-and-behold, it showed up again in a case encountered by a friend who is an industry educator and runs a highly qualified mobile diagnostic service.

He was called to a transmission shop where a repeated problem was showing its ugly little head. The shop owner was overwhelmed with the cost and the time it took to do the job again un-der warranty. That's where my friend was called in to investigate. He was seeking my opinion.

The case was a 1991 Isuzu pickup that was equipped with a Delco 7880 CS-130 alternator. In the early 90s, GM used their 2.8L engines on some Isuzu vehicles, like Rodeo and Trooper. The available Delco alternator was used, particularly on models equipped with the 4L30E transmission.

The problem arises when a vehicle shows up in a transmission "Limp Mode", and the testing shows trouble codes (mainly code 43) that relate to the Ground Control Relay circuit. After detailed measurements, it is usually detected that this relay is bad and has to be replaced. The relay is located inside the Transmission Control Module. A new TCM has to be ordered and installed. However, this fix does not last long, as the new TCM will join the old one very soon, if not just right out of the service bay (as was the case my friend was investigating!)

The problem is—Isuzu vehicle's electronics are extremely sensitive to volt-age irregularities and especially to high voltage. The typical CS-130 used for these applications, most likely contains the same family of 411, 429 or 437 voltage regulators that have a nominal voltage setting of 14.7 volts. This is considered too high for Isuzu systems, where the test procedures require a voltage not exceeding 14.3-14.5 volts. Some factory alternators recommend-ed for Isuzu have a tag which specifies that the unit is "Made for Isuzu".

I guess (and this is only a guess) that in order to comply with the Isuzu requirement, the 1116425 voltage-regulator family that has a 14.2 volt-setting and a flat Temperature Compensation Curve (TCC) are used for these applications. Otherwise, I am not aware of any other voltage regulator that has been made specifically for the Isuzu applications.

The recommendation I gave to my friend was just that. I recommended that the alternator either be replaced or repaired by a local rebuilder, insisting that they install a 1116425 (Taditel T-724) regulator on this alternator.

Here in the Midwest and in the north-ern part of the country, Isuzu's from the early 90's are not seen very often. But I am sure that in more moderate climates, such as in the Southwest or in the West, there still exists an older population of such vehicles. Charging voltage may yet become an issue for them, due to their aged electronic equipment (particularly a sensitive transmission control module). So, get in touch with local transmission shops. Supply the right alternator and be a hero!

Solenoids

18951 and 18230 Bosch starters have been a couple of fast-moving industrial starters for us. We rebuild them when feasible, and when the cores are exploded beyond repair, we buy complete units from various industry vendors. Keeping

one or more of each unit in stock has been shown to be a good move, as they have reasonably high retail value.

Recently, when a 18951 starter core was torn down, it was shown to be in perfect shape. In cases like this, given that our customers are local and can be contacted, we try to inform them of the possibility of another likely problem, such as a bad battery or a faulty ignition switch. We warn them to watch for the same symptoms in the new starter.

This was not the case, as our customer informed us that the replacement starter had solved their cranking problem, and the machine was working fine.

Figure 1

We rebuild almost all our Bosch solenoids in-house. When the solenoid cap of this starter was opened, it became obvious what the problem was (**Figure 1**). Excessive arcing had deteriorated the contact and battery post so badly that cranking was not possible, even though externally the solenoid looked perfect, almost like new. If I had not opened up the solenoid, and if I had used it in another unit, it probably would have worked a couple of times for testing. Then the unit would have been put back into stock, only to be returned later as a defective warranty. (**Figure 1**)

This and other such cases are really the benefits of rebuilding your solenoids in-house. It is one of my favorite parts of rebuilding, after so many years in this business. The required toolings that are still available, are not cost-prohibitive, and the cost of stocking caps, contact plates and studs is minimal. (These parts are also still available.) Being able to rebuild your own solenoids gives you a degree of independence that allows you to deliver a unit on time without waiting for a parts delivery. I have shown pictorials of this simple process in various tech seminars, and I will post it on our new APRA-Tech website in near future.

Local Interconnect

Network (LIN)

Advances in automotive electronics and an increasing number of the electronic modules in modern vehicles have required a simpler and less cumbersome method of module-to-mod-ule communication. In order to eliminate the need for hard-wiring modules together which would require bulky, heavy, and expensive wiring looms, a low-speed system of communication called LIN was envisioned by a few European automakers (BMW, AUDI, VW, Volvo and Mer-cedes-Benz). This laid the groundwork for and eventually became the system that nearly all automakers today use in one form or another.

Think of it as a simple Internet system which only certain modules of your vehicle are allowed to access and through which they can communicate with each other. They communicate anytime the ignition switch is on and the car is running.

The LIN is considered a low-speed communication bus. It is simple and cheap to build and install, and the devices that use it are the ones that are not of the first order of importance for the engine and powertrain operations. Modules with critical functions, such as ignition, fuel and miss-fire detection, are connected via a high-speed bus, such as CAN (Controller Area Network). The items which do not need that fast rate of carrying orders, such as power windows, door-locks, blower motors, radios, etc., are assigned to the LIN communication network. Its speed can operate these devices rather easily.

Newer and more complicated alternators that continuously change the voltage setting for a variety of operational modes, are good candidates for addition to the LIN system. So, gone are the warning lights or the PCM-activation of the alternator. The alternator itself has become a module, and it is connected to the LIN bus of the vehicle.

The PCM, or any other module which controls the charging system, can have two-way communication with the alternator through a single wire—used for activation, voltage-setting, fault-detection and any other bit of information. In case of a problem or a fault in the charging system, the LIN will carry the message to the module which is in control, which will turn the warning light on to indicate a problem. All of this is done through bits of information that ride on the LIN bus.

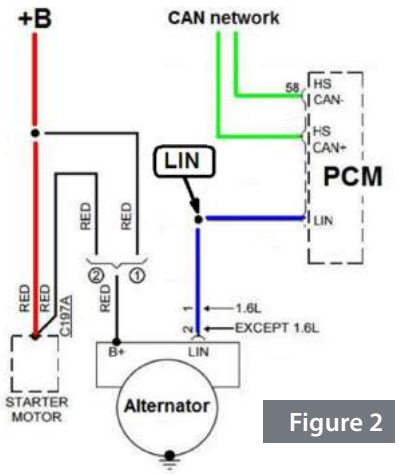

Figure 2

Figure 2 shows a simplified schematic of a 2013 Ford Focus with a 2.0L engine that uses a 11551 Mitsubishi alternator. This alternator, that has a 3-wire connector has only one active center pin which is the connecting point to the LIN. A higher speed communication bus, such as CAN, is shown in part. It communicates with other modules, but the alternator uses only the LIN. I will discuss the additional details of the LIN in next month's article. ■

automechanika FRANKFURT

The leading trade fair for the automotive service industry will take place this year from September 13–17 at Messe Frankfurt in Frankfurt, Germany.

REMANUFACTURING TO BE FEATURED IN COOPERATION WITH APRA EUROPE

We achieved to bring Remanufacturing in the focus of renowned Automechanika Frankfurt and initiated a cooperation in the field. To raise the profile of Remanufacturing, a green logo has been introduced in order to identify exhibitors offering relevant products. It is possible to easily trace such exhibitors on the Automechanika Frankfurt website under the 'Special Interest – Remanufacturing' label in the exhibitor search.

All exhibiting APRA members automatically qualify for the Remanufacturing Competence!

Read more about our cooperation with Automechanika in the press release.

AUTOMECHANIKA REMANUFACTURING DAY HOSTED BY APRA AND AUTOMECHANIKA

Visitors will be able to find out about the latest developments in the industry in specialist presentations being given on Automechanika Remanufacturing Day, which is being presented as part of the Automechanika Academy. Experts and industry insiders can look forward to captivating discussions with participants followed by excellent networking opportunities.

The APRA Europe organized Automechanika Remanufacturing Day takes place on **Wednesday, September 14, 2022** in the premises of the Automechanika fair.

COME AND VISIT US AT OUR BOOTH

We will be there for you and happy to be in touch at our booth, which will be located in **Hall 4.1 FOY01**.

Our team will be available all days from September 13-17, 2022 in order to answer any of your requests.

Just as in previous years, we have prepared some nice features for our members.

Learn more about the Automechanika Remanufacturing Day here.

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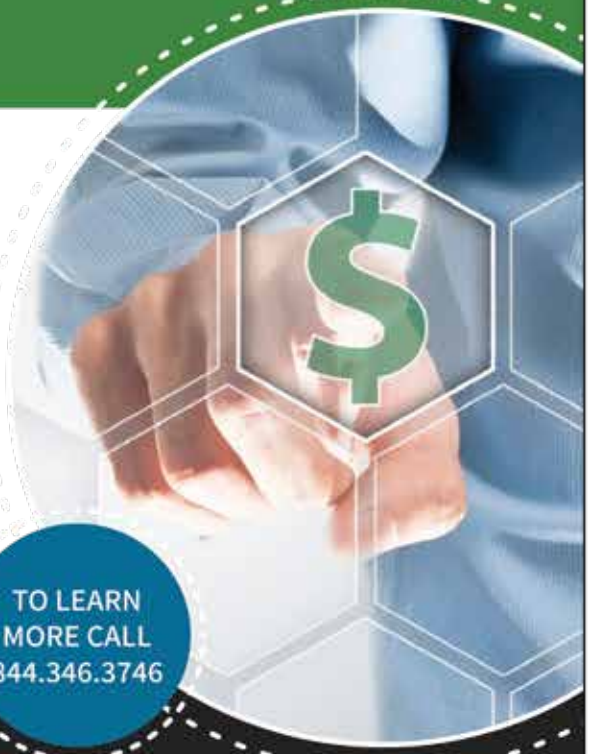

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